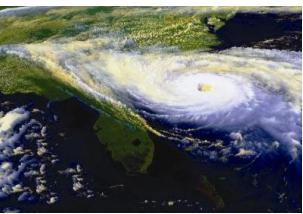


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GOVERNO FEDERAL
BRASIL
PAÍS RICO É PAÍS SEM POBREZA

EXPERIENCIA DE MCTI EN ENFRENTAR EL CAMBIO CLIMÁTICO COMO UNA POLÍTICA PÚBLICA

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- ✓ Significant trends in precipitation and temperature have been observed in CA and SA (**high confidence**). Besides, changes in climate variability and in extreme events have severely affected the region (**medium confidence**).
- ✓ Climate projections suggest increases in temperature, and increases or decreases in precipitation for CA and SA by 2100 (**medium confidence**).
- ✓ Changes in stream flow and water availability have been observed and projected to continue in the future in CA and SA, affecting already vulnerable regions (**high confidence**).
- ✓ Land use change contributes significantly to environmental degradation exacerbating the negative impacts of climate change (**high confidence**).
- ✓ Conversion of natural ecosystems is the main cause of biodiversity and ecosystem loss in the region, and is a driver of anthropogenic CC (**high confidence**).
- ✓ Sea-level rise (SLR) and human activities on coastal and marine ecosystems pose threats to fish stocks, corals, mangroves, recreation and tourism, and control of diseases (**high confidence**).
- ✓ Changes in agricultural productivity with consequences for food security associated to CC are expected to exhibit large spatial variability (**medium confidence**).
- ✓ In many CA and SA countries, a first step toward adaptation to future climate changes is to reduce the vulnerability to present climate.



To what degree will we be able to adapt to climate change?

- It would be a mistake to think we can successfully adapt our way out of climate change without doing anything to reverse climate change.
- Neither adaptation nor mitigation alone can avoid all climate change impacts.

What do we need to do to prevent climate change?

- If we are to limit the average global temperature increase to 2°C by 2100, we will need to achieve zero emissions well before the end of the century.
- We will then have to move towards negative global emissions, which means we will need to absorb more CO₂ than we emit.



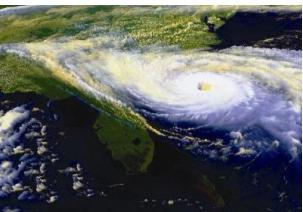


International Regime on Climate Change

- The international regime on climate change has as fundamental instruments UN Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol. **The goal** is to stabilize atmospheric concentrations of greenhouse gases at a level that would prevent dangerous anthropogenic interference with the climate system

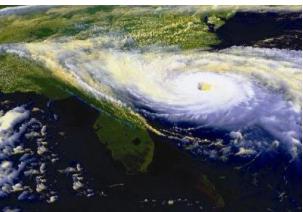
The system differentiates obligations of developed and undeveloped countries.

Brazil has no target reductions under the Convention.



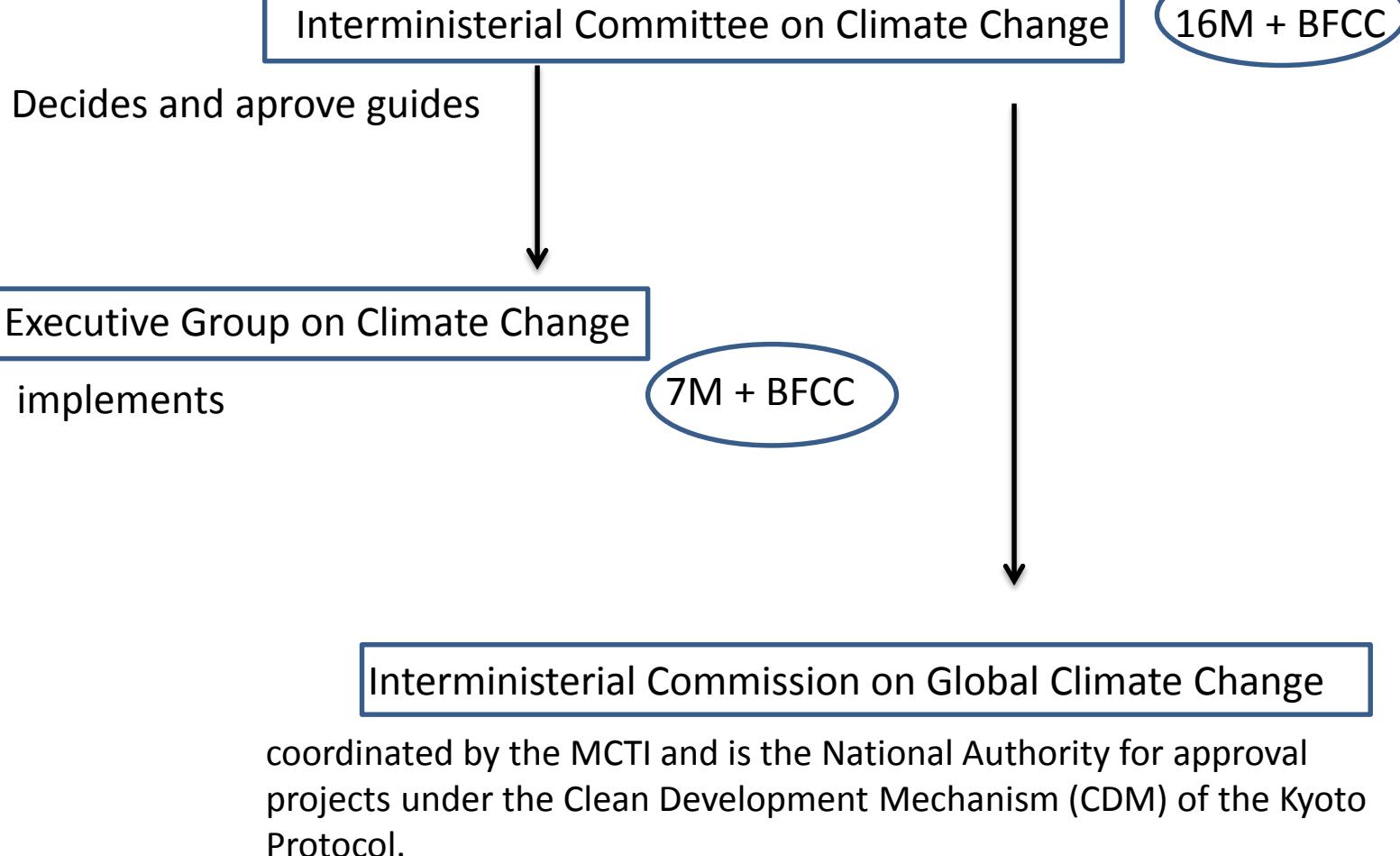
Commitments of Brazil

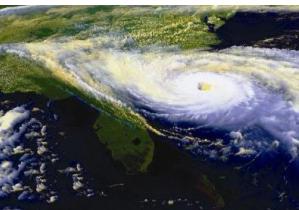
- Prepare national emission inventories of GHG;
- Proposals of adaptation and mitigation;
- Promote technological cooperation;
- Promote sustainable management of sources and sinks of GHG;
- communications to UNFCCC



National Policy

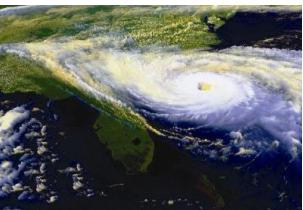
- 12/2008 – National Plan on Climate Change
- 12/2009 – National Policy on Climate Change
- 12/2010 – Regulating Act that established the National Policy establishing criteria for drawing up plans for prevention and control of deforestation and Sector Plans.





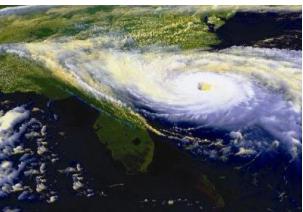
SETORAL PLANS

- Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm);
- Action Plan for the Prevention and Control of Deforestation and Fires in the Cerrado
- Ten Year Energy Expansion Plan (PDE);
- Sectoral Plan for Agriculture (ABC Plan);
- Sectoral Plan for Reducing Emissions from Steel;
- Sectoral Plan for Industry ;
- Sectoral Plan for Mitigation and Adaptation to Climate Change in Mining Low Carbon;
- Sectoral Plan for Transport and Urban Mobility;
- Sectoral Plan for Health.



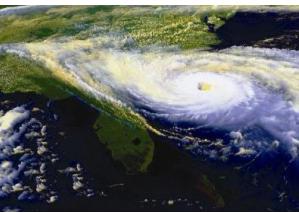
Implementation of the National Policy on Climate Change (PNMC):

- Implementation of Sector Plans;
- Annual estimates of GHG emissions (since 2012)
- Preparation of National Adaptation Strategy
- Review of the National Plan on Climate Change
- Feasibility analysis of the Brazilian Market for Emissions Reduction.



Implementation of the UN Framework Convention on Climate Change (UNFCCC)

- National Communication:
 - National inventories of anthropogenic emissions and removals by sources and by sinks of all greenhouse gases not controlled by the Montreal Protocol;
 - Measures taken or envisaged to implement the Convention.
- Reporting Biennial Update
- Kyoto Protocol



Kyoto Protocol

- Second commitment period (started on 2013):

Advances on Clean Development Mechanisms

Non-Annex I Parties : sustainable development through:

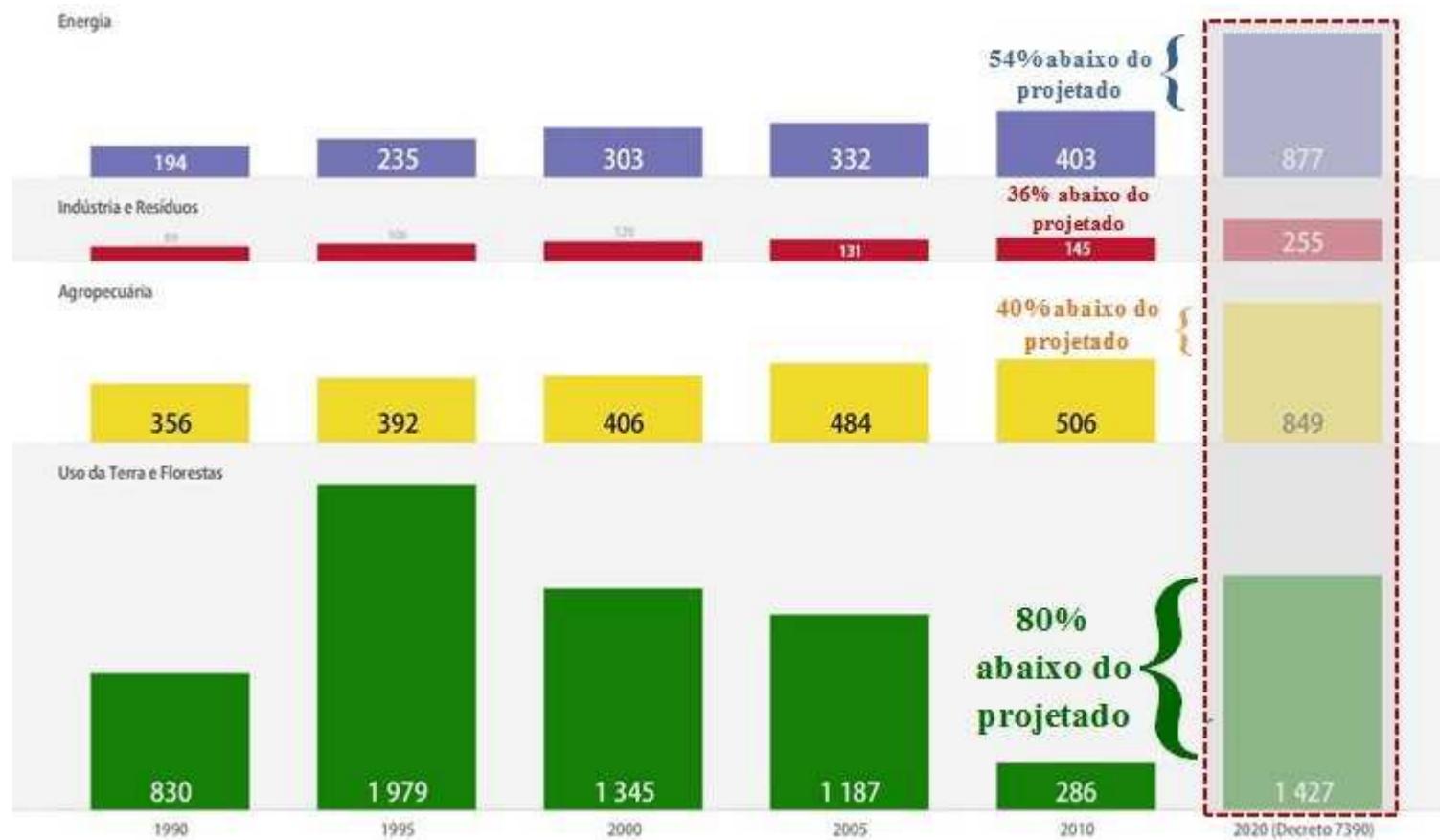
- projects in climate change mitigation in developing countries
- transfer and diffusion of technology
- improving the lives through job creation and increased economic activity



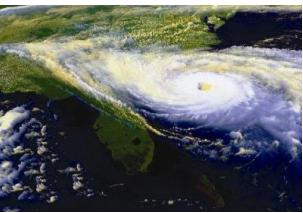
in 2010, Brazil voluntarily informed the UNFCCC its intention to adopt a set of actions that lead the reduction of GHG estimates, by 2020, between 36.1% and 38.9%



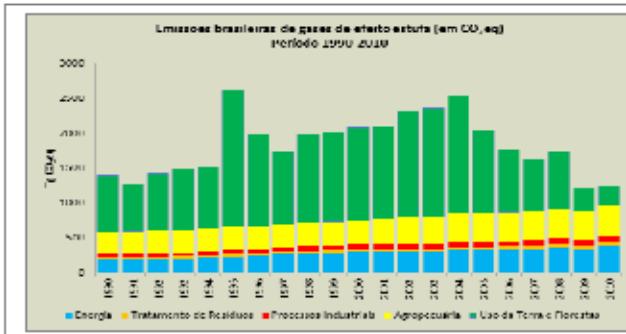
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Total de emissões em 2010 é 60,7% inferior ao projetado para 2020



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Fonte: MCTI, 2013¹²

Tabela 1 – Estimativas de emissões de gases de efeito estufa em CO₂eq, por setores, para os anos 1990, 1995, 2000, 2005 e 2010.

Setores	Tg CO ₂ eq					Variação	
	1990	1995	2000	2005	2010	1995-2005	2005-2010
Energia	191,543	232,430	301,096	328,808	399,302	41,5%	21,4%
Processos Industriais	52,536	63,065	71,673	77,943	82,048	23,6%	5,3%
Agropecuária	303,772	335,775	347,878	415,713	437,226	23,8%	5,20%
Florestas	815,965	1.950,084	1.324,371	1.167,917	279,163	-40,1%	-76,1%
Resíduos	28,939	33,808	38,550	41,880	48,737	23,9%	16,4%
TOTAL	1.392,756	2.615,162	2.083,570	2.032,260	1.246,477	-22,3%	-38,7%

Fonte: MCTI, 2013¹²



Actions of MCTI:

- Observing System and Detection of Impacts of Climate Change Projeto Opções de Mitigação (GEF)
- Preparation of the annual estimates of GHG emissions
- Brazilian Model of the Global Climate System
- National Centre for Monitoring Natural Disasters and Alerts (Cemaden)
- Preparation of the Third National Communication
- Rede CLIMA: R&D
- Executive Secretariat of the Interministerial Commission on Global Climate Change
- IPCC
- Coordination of the National Inventory



Observing System for Detection of Climate Change Impacts

- Objetivo: continuous monitoring of the impacts of natural variability and global climate change on natural systems and economic activities.
- public and free dataset system
- Operation and maintenance of observational systems of environmental variables, including, but not limited to, atmospheric, hydrological, ecological variables, and greenhouse gases concentration.



GHG Mitigation Options in Core Sectors

- Overall objective: to strengthen the technical capacity of the Government to implement its GHG mitigation actions in key economic sectors (industry, energy, transport, residential and services, waste management, LULUCF and trans-sectoral alternatives).
- Resultados esperados:
 - 1) Alternativas de mitigação identificadas e seus respectivos potenciais e custos quantificados para os períodos de 2012-2035 e 2035-2050;
 - 2) Análise integrada das alternativas de mitigação em um quadro de otimização integrado, considerando a não-aditividade das diferentes alternativas de mitigação e outras considerações de ordem econômica; e uma avaliação dos possíveis impactos de diferentes políticas climáticas sobre a economia brasileira; teste de monitoramento, reporte e verificação (MRV) das alternativas de mitigação propostas;
 - 3) Construção de capacidades para a implementação de ações de mitigação nos principais setores econômicos.



Brazilian Model of the Global Climate System

- Purpose: climate change scenarios at global and regional scales
- In development for group of institutions led by INPE. Should be completed by 2015.
- Important contribution to the development of Brazil's Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR5).
- Adjusted for the Brazilian reality will help in the prediction of occurrence of extreme natural phenomena such as floods and long periods of drought.



Centro Nacional de Monitoramento e Alertas de Desastres Naturais (CEMADEN)

- Objective: To develop, test and implement a system for predicting the occurrence of natural disasters in susceptible areas throughout Brazil.
- Partnerships with state and federal institutions, enabling greater agility in the dissemination of information and details of the analysis for troubleshooting.
- Helps identify vulnerabilities in the use and occupation of land
- Works on raising awareness and consequent readiness of the population at risk.



Annual emissions estimates

- National voluntary commitment: Mitigation of GHG emissions, aiming to reduce from 36.1% to 38.9% its projected 2020 emissions.
- The MCTI coordinates the working group responsible for developing such estimates and improve the methodology for calculating the projection of emissions.



Interministerial Commission on Global Climate Change

assignments

- opinion on proposals for sectoral policies, legal instruments and relevant to the mitigation of global climate change standards and the Country's adaptation to its impacts
- provide subsidies to the positions of the Government in the negotiations under the auspices of the UNFCCC
- set additional eligibility criteria for Clean Development Mechanisms (CDM)
- advice on CDM project activities
- conduct liaison with civil society to promote actions aimed at complying with the commitments in the UNFCCC.



Third National Communication to the UNFCCC

Chapters:

- I - National Circumstances;
- II - Brazilian Inventory of Anthropogenic Emissions not Controlled by the Montreal Protocol;
- III - Measures planned or already implemented in the country;
- IV - Other information considered relevant, including technology transfer; research and systematic observation; education, training and public awareness; formation of national and regional capacity; and information and education network;
- V - Problems.



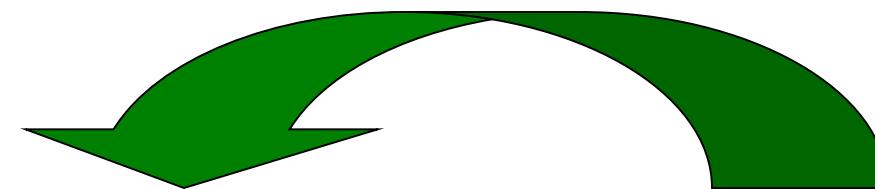
Brazilian Research Network on Global Climate Change (REDE CLIMA)

- Mission: To generate and disseminate knowledge so that Brazil can meet the challenges represented by the causes and effects of global climate change.
- Goal: To establish scientific and technological community prepared to fully meet the national needs for knowledge
- 15 sub-redes temáticas:

- agricultura	- economia	- saúde
- biodiversidade e ecossistemas	- energias renováveis	- zonas costeiras
- cidades	- modelagem	- oceanos
- desenvolvimento regional	- recursos hídricos	- serviços ecossistêmicos
- desastres naturais	- usos da terra	- comunicação, público e cultura



Thank you



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